FUELSTAT®

.ConidiaBioscience

HELICOPTERS

Jet fuel microbial contamination can be extremely costly for operators of civilian or military helicopters. Identify and deal with the issue at earliest possible stage

TRIED.TESTED.TRUSTED.

FUELSTAT® provides simple rapid detection of microbial contamination in jet fuel with free digital app to verify results and capture data





Avoiding unscheduled Aircraft on Ground (AOG) can be very good for business and reputation

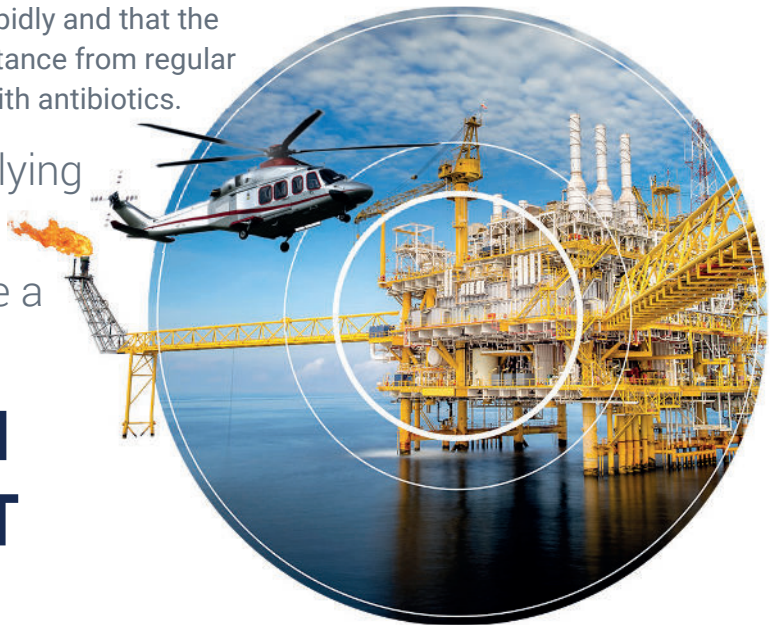
Traditionally, jet fuel testing methods have depended on fuel samples being sent to a specialist laboratory for analysis. The next step is a waiting period of up to 4-7 days, or longer to get the results.

Sending the fuel samples to the lab isn't simple. ASTM D6469 highlights that if a sample is to be tested for microbial contamination and cannot be tested on-site, it should be transported on ice and tested within 24hrs or the sample may no longer be a true representation of the environment from which it came. Delays may cause varying results which may cause an increased risk to your asset and require unscheduled maintenance downtime to remove the contamination.

- Why take the risk?...
- Why wait 4-7 days for a test report?

Applying an additive like biocide on a regular basis is another solution commonly used in aviation to prevent microbial contamination. The risk is that a fresh contamination starts before the next scheduled application of biocide and grows rapidly and that the contamination micro-organisms develop resistance from regular exposure to biocide, much as a human does with antibiotics.

- Is the cost and effort of applying additives regularly justified?
- Would fast on-site testing be a more efficient option?



FUELSTAT® SOLUTION
TEST. RESULT. REPORT
within 15 minutes

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JET FUEL MANAGEMENT



FUELSTAT® Microbial Contamination Detection: A modern solution for all aspects of managing fuel. All contamination can impact the quality of aviation jet fuel; microbial contamination is the most troublesome.

- Does your fuel contain dangerous levels of microbial contamination?
- FUELSTAT® can quickly help you find out!

FUELSTAT® uses antibody technology as against more traditional growth techniques. It works equally well testing fuel only as well as water in fuel, only searches for the markers of microbial contamination so risk of false high results are reduced, is simple with no previous experience in testing required, and very fast with results from start to finish in less than 15 minutes. It also comes with a free data capture app FUELSTAT® Result.

Field-based microbial fuel testing for all helicopter operators

The very nature of both civil or military operations is such that activities are often carried out where time really is a matter of life or death. As such, can one really wait several days to identify whether their asset is at its optimum level, or potentially at risk of failure? The answer is, of course no.

FUELSTAT® test kits have no special handling, transportation, storage or disposal requirements and are safe to be carried and administered in the real life conditions of most operations, at a time when needed most.

- FUELSTAT®, taking only a few moments of labour to complete and interpret, is very cost effective
- FUELSTAT® helps the operator determine the condition of fuel tanks based on knowledge, not guesswork, helping reduce risk of unexpected downtime
- FUELSTAT® helps operator make informed decision regarding the need for treatment with biocide, so that treatment is only carried out when necessary, reducing cost, downtime and overuse considerations
- For military operators FUELSTAT® test kits have a NATO stock number 4940-99-615-6295

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MICROBIAL CONTAMINATION IN JET FUEL

What is aviation fuel microbial contamination, why is it so costly and vital to identify?

Fuel microbial contamination is caused by microbes: tiny organisms such as bacteria, yeasts and fungi, which thrive wherever there is food and water. Aviation fuel systems are ideal habitats for these organisms. Not only are these systems often warm and humid, but they also provide food for microbes in the form of hydrocarbons that are in the fuel.

If these microbes (also known as 'bugs') are allowed to proliferate unchecked, they can block fuel filters and cause fuel gauging problems. In fact, they can even induce corrosion to such extent that they can damage the fuel tank structure.

- Blocked filters
- Fuel Quantity Indication Probes
- Corrosion and tank leakage



Solo Working: FUELSTAT® makes the new normal easier

1. Test kit comes complete in sealed pouch



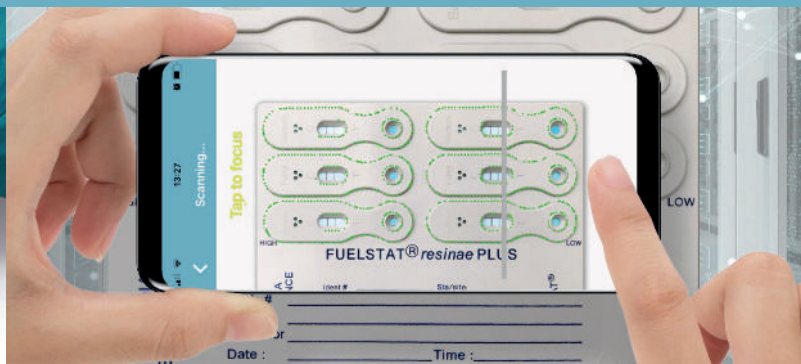
2. Watch training videos on smartphone



3. Do test, wait 10 minutes and get results



4. Transmit result to anywhere in globe

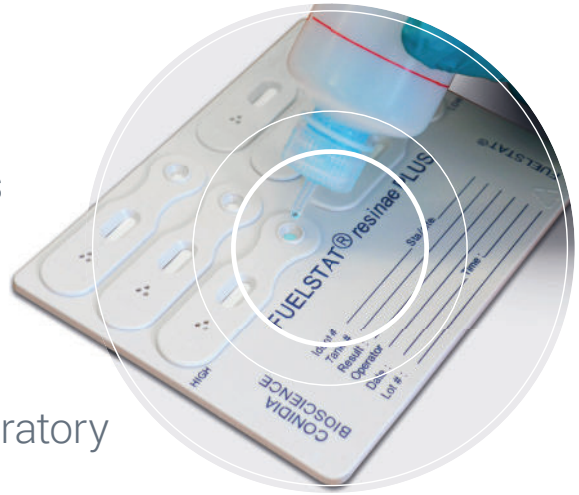


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THE SOLUTION IS AS SIMPLE AS 1-2-3

FUELSTAT®*Plus*

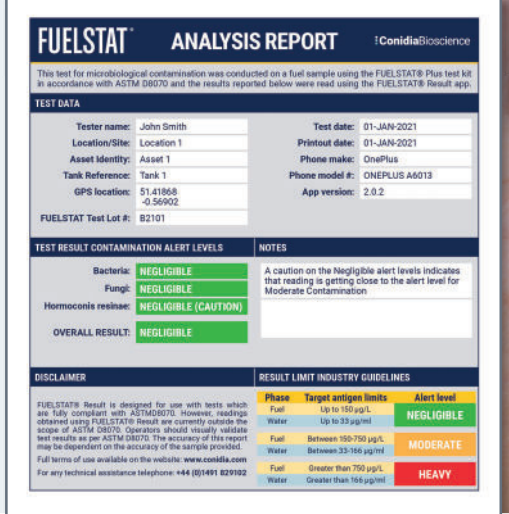


- The ultra-simple test that just requires ***4 drops*** of sample
- ***15 minutes*** to result as opposed to 4-7 days!
- ***'Test at the tank'*** technology - no laboratory required
- No requirement for additional ***equipment*** or ***sterility measures***

In critical times, you need a fast, convenient testing method - one that doesn't require multiple people to complete the process. Using FUELSTAT®, a single person can conduct tests at the tank after minimal training from our instructional videos. FUELSTAT® *Plus* is based on immunoassay antibody tests. Just as a pregnancy test searches only for markers of human chorionic gonadotropin, FUELSTAT® *Plus* only searches for the markers of bacteria and fungi that can grow in jet and diesel fuel and can potentially cause both operational downtime, corrosion and in worse case safety issues.

FUELSTAT®*Result*

- The easy to use app that gives ***immediate visual verification*** of result
- ***Reduces risk*** of misinterpretation
- No need for additional equipment other than a smartphone
- Fully ***detailed report*** can be instantly produced in PDF format


FUELSTAT® ANALYSIS REPORT ConidiaBioscience

This test for microbiological contamination was conducted on a fuel sample using the FUELSTAT® Plus test kit in accordance with ASTM D8070 and the results reported below were read using the FUELSTAT® Result app.

TEST DATA

Tester name:	John Smith	Test date:	01-JAN-2021
Location/Site:	Location 1	Printout date:	01-JAN-2021
Asset Identity:	Asset 1	Phone make:	OnePlus
Tank Reference:	Tank 1	Phone model #:	ONEPLUS A6013
GPS location:	51.41868 -0.56902	App version:	2.0.2
FUELSTAT Test Lot #:	B2101		

TEST RESULT CONTAMINATION ALERT LEVELS		NOTES
Bacteria:	NEGLIGIBLE	A caution on the Negligible alert levels indicates that reading is getting close to the alert level for Moderate Contamination
Fungi:	NEGLIGIBLE	
Hormoconis resinae:	NEGLIGIBLE (CAUTION)	
OVERALL RESULT:	NEGLIGIBLE	

DISCLAIMER

FUELSTAT® Result is designed for use with tests which are fully compliant with ASTMD8070. However, readings obtained using FUELSTAT® Result are currently outside the scope of ASTM D8070. Operators should visually validate test results as per ASTM D8070. The accuracy of this report may be dependent on the accuracy of the sample provided.

Full terms of use available on the website: www.conidia.com

For any technical assistance telephone: +44 (0)1491 829102

RESULT LIMIT INDUSTRY GUIDELINES

Phase	Target antigen limits	Alert level
Fuel	Up to 150 µg/L	NEGLIGIBLE
Water	Up to 33 µg/ml	
Fuel	Between 150-750 µg/L	MODERATE
Water	Between 33-166 µg/ml	
Fuel	Greater than 750 µg/L	HEAVY
Water	Greater than 166 µg/ml	

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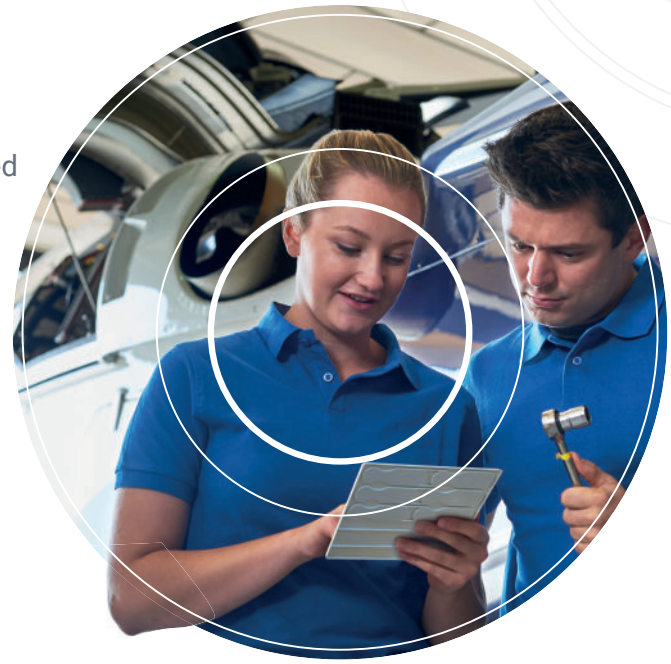
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Who we are:

FUELSTAT® fuel tests are developed, manufactured and marketed by Conidia Bioscience Ltd. Based in UK, Conidia Bioscience was founded in the early 2000's by experts in immunoassay techniques and holds the internationally patented intellectual property for FUELSTAT®.



Where to find us:

FUELSTAT® is distributed globally by a network of specialist distributors covering the major sectors. To arrange for a distributor to support you simply contact info@conidia.com.

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